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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/779,552	02/11/2004	Juan M. Vazquez	LAR 16615-1	9516

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
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EXAMINER

ZEMEL, IRINA SOPHIA

ART UNIT PAPER NUMBER

1711

DATE MAILED: 10/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Kn

Office Action Summary	Application No. 10/779,552	Applicant(s) VAZQUEZ ET AL.	
	Examiner Irina S. Zemel	Art Unit 1711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 August 2004.
 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-57 is/are pending in the application.
 4a) Of the above claim(s) 36-57 is/are withdrawn from consideration.
 5) ☐ Claim(s) _____ is/are allowed.
 6) ☒ Claim(s) 1-35 is/are rejected.
 7) ☐ Claim(s) _____ is/are objected to.
 8) ☒ Claim(s) 1-57 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>8-30-2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-35, drawn to a process for producing an aromatic polyimide foam, classified in class 521, subclass 50.5.
- II. Claims 36-51, drawn to polyimide foam, classified in class 521, subclass 157.

The inventions are distinct, each from the other because of the following reasons:

Inventions Group II and Group I are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product as claimed can be obtained by a materially different process such as foaming the mixture at elevated temperatures without a curing step.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

Because these inventions are distinct for the reasons given above and the search required for Group II is not required for Group I, restriction for examination purposes as indicated is proper.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

During a telephone conversation with Ms. Robin Edwards on October 6, 2004 a provisional election was made with traverse to prosecute the invention of invention Group I, claims 1-35. Affirmation of this election must be made by applicant in replying to this Office action. Claims 36-57 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Specification

The use of various trademarks for catalysts (such as Polycat 33, etc.), surfactants (such as DC 193, etc.), fire retardants (such as Antiblaze N, etc.), and isocyanates (such as Rubinate M, etc.) has been noted in this application. It should be capitalized wherever it appears and be accompanied by the generic terminology. No generic terminology or description of catalysts, surfactants or isocyanates designated by the trademarks have been provided in the specification. It is suggested that applicants provide description as to the chemical compositions of the materials designated by

trademarks only. Applicants should note that in doing so, no new matter should be introduced.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

Claim Rejections - 35 USC § 112

Claims 1-35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites step (c) as follows: "(c) mixing the first and second solutions at ambient temperature to produce an admixture." However, in the vast majority of the illustrative examples mixture (a) has a temperature, about 100 F, which is far above the temperature that is normally regarded as room temperature or about 68 F. The mixture (a) is mixed with mixture (b) (which, according to the examples, has a room temperature) for a short period of time. Since the amounts of mixture (a) is (according to the examples) equal or greater than the amount of solution (b), the temperature of the resulting mixture when mixed is, inherently, significantly above room or ambient temperature as claimed in step (c). The specification does not provide any guidance as to what is considered to be the claimed "ambient" conditions and temperatures. Thus, the meaning of the claims limitation "ambient temperature" is indefinite. Clarification is required.

Claims 14, 17-20 and 22-24 claim chemical compounds by their tradenames.

Use of trademarks in the above-identified claims is inappropriate. The claim scope is uncertain since the trademarks can not be used properly to identify any particular material or product. See MPEP 2173.05(u). Appropriate correction is required.

Allowable Subject Matter

Claims 1-35 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

The invention is drawn to a process for producing an aromatic polyimide foam, which includes the steps of (a) providing a first solution comprising one or more aromatic dianhydrides or derivatives of aromatic dianhydrides dissolved in one or more polar solvents, along with an effective amount of one or more blowing agents, (b) providing a second solution comprising one or more isocyanates; (c) mixing the first and second solutions at ambient temperature to produce an admixture; (d) allowing the admixture to foam to completion under ambient conditions to produce a foamed product; and (e) curing the foamed product. While the prior art contains numerous examples of processes for aromatic polyimide foam, which includes reactions of isocyanates with aromatic dianhydrides, (see, for example, US Patents 4,177,333, 3,722,216, and 4,585,805) the reactions disclose in the references take place in the absence of polar solvent and none of the references of record disclose a step of providing a first solution comprising one or more aromatic dianhydrides or derivatives of

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aromatic dianhydrides dissolved in one or more polar solvents, along with an effective amount of one or more blowing agents prior to mixing it with a second solution containing a diisocyanate.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patents 4,177,333, 3,722,216, and 4,585,805 disclose methods for preparing polyimide foams from isocyanates and acid anhydrides. JP 10-81727 discloses a method for producing water foamed polyimide foams by reacting polyisocyanate with anhydride in the presence of polar compatibilizing agent.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Irina S. Zemel whose telephone number is (571)272-0577. The examiner can normally be reached on Monday-Friday 9-5.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (571)272-1078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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